

MODDEN MODIFICATION IN BREAST CANCER AFTER MASTECTOMY THE CURRENT STATE OF THE ISSUE OF PROPHYLAXIS OF LYMPHORRHEA

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Abstract. *This article details several methods used to prevent post-mastectomy lymphorrhea using the Madden modification in breast cancer. In particular, preventive methods of post-mastectomy lymphorrhea in the pre-operative, intra-operative and post-operative period according to the Madden modification have been highlighted. Conservative and operative methods of prevention of lymphorrhea, their advantages and disadvantages are described. More than 45 foreign and local literatures are used in this article. Tugizova Dildora Ismailovna Breast cancer is one of the most common oncological diseases and has come to the fore in recent years. (Aksel E.M., 2010, Davydov M.I., 2012, Chissov V.I., 2010, Merabishvili V.M., 2012) (1,31,22) According to the information of BMSST, 1.5 mln. more breast cancer is newly diagnosed. 500,000 of the patients diagnosed in a year die within that year. Recent statistics show a 16.5% increase in breast cancer incidence and mortality [8,32].*

Keywords: *the main method of treatment for patients with breast cancer is to remove a part of the breast tissue or the whole breast together with the tumor and perform an operation to join the axillary, subscapular, subscapular lymph nodes together (2,42).*

The majority of patients with breast cancer are treated with a modified mastectomy size surgical method proposed by Madden (4,24,25,36). According to Russian Federation statistics, 25,346 Madden mastectomies were performed in 2010 (39). Most patients with breast cancer (SBR) have stage III disease, which is an indication for Madden's modified mastectomy (MME). The complete removal of the breast tissue requires the presence of several diffusely located microcalcifications in the background of the breast tissue outside the tumor area, the size of the tumor with a diameter of more than 2.5 cm, especially the small size of the breast, the location of the tumor in the central quadrant and the hereditary nature of SBR, as well as the locally widespread form of the disease (lymph node metastases) may be an indication (3,5,45). Radical mastectomy and radical breast resections with regional lymph nodes in the axilla, sublumbar and subscapular lymph nodes cause long-term lymphorrhea in the postoperative period. The more lymph nodes that the surgeon removes in the axillary, subscapular, and subscapular lymph nodes, the more abundant and long-term lymphorrhea is observed (6,26,13,33,35,15). Changes in cytokine status on the first postoperative day reflected the inflammatory response to surgical wounds, and on the fifth postoperative day, the level of cytokine data in the wound reflected their role and influence on the wound healing process [10,9,11,14]. Research shows that Interleukin-6 is the main cytokine of the inflammatory phase of tissue inflammation, while tumor necrosis factor alpha is the cytokine of the proliferative phase [37,16]. Interleukin regulates the expression of genes involved in the synthesis of growth factors [17,18,20] and affects wound healing and tissue healing [21,23]. conditionally divided into 3 groups: Anti-inflammatory cytokines increase the permeability of blood vessels and stimulate the production of serous fluid. Suppressing the inflammatory phase of

tissue adhesion can reduce the amount of serous fluid after surgical treatment [28]. Klink et al. in his article Interleukin-1 of blood plasma Lymphorrhoea prophylaxis using intraoperative ultrasound. Lasers are one of the most common methods in oncology. A high-energy laser is used to prevent lymphorrhoea after MME in the Madden method. To prevent postoperative lymphorrhoea, the effect of high-energy laser on the surface of the wound contributes to a significant decrease in lymphorrhoea due to the microcoagulation of lymphatic vessels, based on the fact that their reiteration is caused by laser radiation. In the treatment of breast cancer, the use of high-energy laser in the mode of coagulation of the wound surface reduces the amount of postoperative lymphorrhoea and prevents the development of postoperative inflammatory complications [18,21,27,48]. Ermoshenkov MV and co-authors Madden [46] studied the use of an argon-plasma coagulator to cross the lymphatic channels during MME. These authors found a 34% reduction in the duration of lymphorrhoea with the frequency of transfusion of blood components. At the same time, Kgash Various intraoperative methods, duration and type of used drains, use of sclerosants and other methods are described in the literature to reduce the duration and volume of lymphorrhoea. found that in patients with a high preoperative level, there was an increased risk of long-term and large lymphorrhoea in the postoperative period [29]. Madden's method of tissue separation during MME is an important condition for a successful operation. Mobilization of the regional LAE and the skin layer in the MME operation by the Madden method is a traditional operation, in which the reduction of blood loss is carried out with the help of an electrocoagulator in order to shorten the duration of the operation and, accordingly, to reduce the frequency of transfusion of blood components [38]. On the other hand, Amit Agrawal and others. The use of electrocoagulation has been shown to increase lymphorrhoea by 30-40% [40]. Kouros S. and others say that the use of electrocoagulation significantly reduces blood loss and reduces the severity of postoperative pain syndrome [41]. Ozdogan et al., when the operations were performed using a scalpel [43], compared to the patients performed with the help of electrocoagulation, they found a significant development of long-term lymphorrhoea. The authors found a lymphorrhoea rate of 13% in the group of patients operated with scalpel and 38% in patients treated with electrocoagulation. Andreas Manouras and others. In his article, the effect of bipolar electrocoagulation on blood loss and the duration of lymphorrhoea in the postoperative period was evaluated. The results showed a decrease in blood loss by 300 ml during the operation, but the duration of lymphorrhoea remained unchanged [44]. In the results of the study, Mette Okholm et al. Madden showed that the administration of solu-medrol (extended methylprednisolone) before modified mastectomy (MME) reduced the volume of lymph fluid in patients during the first five postoperative days, but did not change the duration of lymphorrhoea. Studies by different authors show that even low-dose steroids reduce the postoperative inflammatory response [30,34]. It causes caution against the effect of glucocorticoids on the body's defense system, because methylprednisolone reduces the activity of the phagocytic-macrophage system. Machine Translated by Google During the coagulation of tissues and vessels with the help of a harmonic scalpel, protein complexes appear, which simultaneously close blood and lymph vessels [47,12,24]. According to Saua Pago et al., the use of an ultrasound scalpel in the process of MME of Madden's method of tissue dissection allows to reduce the number of prolonged and abundant lymphorrhoea by half compared to electrocoagulation and laser [22]. However, A. Advani Stoff A., in 100 patients performing radical mastectomies using a harmonic scalpel, showed a reduction in the duration and volume of lymphorrhoea, a reduction in the length of hospital stay, and a reduction in intraoperative blood loss of 350 ml [41,33]. Various authors claim that the harmonic scalpel

reduces the duration and volume of lymphatic drainage by almost half and reduces blood loss during surgery. Other authors note that the duration and amount of long-term lymphorrhea do not change [44,32,15]. In addition, the literature does not show the effects of the harmonic scalpel on the duration of surgery and postoperative complications (wound suppuration, marginal necrosis, diastasis, and bleeding in the early postoperative period), and the advantages and disadvantages of the harmonic scalpel are not mentioned. found a difference in the duration and amount of lymphorrhea when using argon-plasma coagulation [13]. The use of drains after MME in Madden is the most studied issue and also the most controversial. Vacuum drains were first used by Murphy in 1947. It was convenient to close the remaining space after performing subclavicular subscapular and axillary lymphadenectomy with the help of negative pressure. Negative pressure helps to "stick" the mobilized skin layers, thereby accelerating wound healing, purulent complications, necrosis of the wound edges, differences between the edges of the wound, duration and volume of lymphorrhea [17]. Commonly accepted practice involves leaving drains in the wounds, which until this time, the amount of lymphorrhea is not less than 30 - 80 ml/day. Ne X., Guo Z. et al., the duration and volume of lymphorrhea do not affect the use of drains with low or high negative pressure [48]. High negative pressure may promote increased lymph flow from lymphatic channels [16,8]. Chintamani V. et al. showed that there was no significant difference in lymph duration and volume after Madden MME using low- and high-pressure drains. At the same time, low-pressure drains were removed 5 days earlier, which reduced patients' hospital stay [7]. Barton A showed in his work that the duration and volume of lymphorrhea and the length of hospital stay of patients with low negative pressure drainage [14] Tissue dissection using an ultrasonic scalpel is good in liver, cardiovascular, plastic surgery and can reduce thermal damage to certain tissues [17,20,12]. As an alternative to electrocoagulation and laser light, ultrasonic scalpel penetration has been used during surgery to separate tissue, achieve hemostasis, and reduce lymphorrhea [15]. The ultrasonic harmonic scalpel, which generates high-frequency ultrasound waves for tissue and hemostasis dissection, was first used in abdominal and cardiovascular surgery, and was later widely used in clinical mammology and plastic surgery. The use of ultrasound scalpel in the surgical treatment of patients with breast cancer has been shown to reduce postoperative lymphorrhea by 20-30% and its duration by 5-8 days [28,31,10]. As an alternative to electricity and laser, ultrasound energy is used to separate tissue and perform hemostasis in MME [1,45]. Machine Translated by Google 6) Reducing the number of outpatient visits of the patient, reducing the financial costs of the medical institution. 1) reducing the duration and amount of lymphorrhea after MME by Madden; 5) acceleration and improvement of social and labor rehabilitation of SBR patients; 4) Improve the cosmetic results of MME by Madden; The use of different methods of myoplasty in clinical practice allows to achieve several therapeutic and economic results [21]: By closing the "dead space" formed after axillary, subclavian and subscapular lymphadenectomy, by reducing the space in the axillary area for the accumulation of lymph fluid, the duration and volume of lymphorrhea can be reduced [42]. Some authors suggest different variants of axillary "dead space" myoplasty after regional lymphadenectomy [19,12,9,10,11,18]. The use of various variants of axillary myoplasty [17] results in a 35-40 percent reduction in the duration and amount of lymphorrhea. The main purpose of this method is to sew mobilized flaps to the chest wall, as well as to use the muscle bundles of the pectoralis minor and major pectoralis major, broad and front teeth muscles to "buffer" the axillary area. Thus, the "dead space" is reduced, and during breathing, it is not allowed to tear the skin from the chest wall. 3) Prevention of postmastectomy edema in the hand; showed that it was significantly less (11 days) when drained using In turn, Drosser R. et al in a

randomized trial of 46 patients showed significantly higher lymph fluid volume when using low-pressure drains compared to high-pressure drains [37]. Clegg-Lampteu et al. confidently stated that drainage after Madden's MME does not affect the duration of lymphorrhea and the volume of lymph, causing pain in the wound area of the patients, increasing the purulent complications of the wound and causing patients to stay in the hospital [12]. A number of authors recommend suturing skin flaps to the chest wall below the axillary and iliac veins [17,5,19]. A number of techniques suggest suturing skin flaps to the muscles of the chest wall using a continuous suture [8,11,19]. In their paper, Ogaekpe et al confirmed the effectiveness of these methods. The duration and amount of lymphorrhea was 25% in the study group and 65% in the control group of patients [23]. In his article Obea W. et al described a simple method for postoperative wound closure by suturing skin flaps to the pectoralis major and dentate anterior muscles. Using this simple technique reduced the duration and amount of lymphorrhea from 60 percent to 18 percent [27]. An article by Clegg et al described a variant of suturing the posterior serratus muscle to the chest wall and the anterior serratus muscle without the use of drains [41]. Ismagilov A. X. and the authors proposed a simple method of "closing the dead space" by cutting the mobilized pectoralis minor muscle over the subscapular vein. 2) Prevention of purulent complications (suppuration of postoperative wounds, difference between the edges of the wound, development of marginal necrosis of skin coverings, septicemia);

Tissue adhesive preparations are provided in the form of fibrin adhesive glue and thrombin. These drugs activate the last step of the coagulation cascade, namely the conversion of fibrinogen to fibrin in the presence of calcium ions [16,4]. Fibrin adhesive glue and thrombocytic preparations accelerate the wound healing process in plastic and orthopedic surgery. The use of fibrin glue after Madden led to a decrease in the duration and volume of lymphorrhea. JaouenR. described the feasibility of using fibrin glue in 101 women after radical mastectomy in their article. The results did not show a significant decrease in the duration and volume of lymphorrhea (the duration decreased to 2 days, the lymph volume was 60 - 80 ml) [13]. Meanwhile, Johnson et al. observed a decrease in lymph fluid volume when injecting fibrin glue into 96 ml after surgical treatment of RME [30]. In turn, a number of authors have shown that the use of fibrin glue significantly (up to 850 - 1050 ml) reduces the volume of lymph fluid and the length of stay in the hospital (up to 10 - 12 days), but does not affect the duration of lymphorrhea [45,13,15,44]. However, some studies show only a slight decrease in lymph fluid volume (up to 3050 ml) after mastectomy [30,5,14,2,11,19]. A number of authors say that the use of fibrin glue is not effective for reducing the duration and volume of lymphorrhea, leads to wound infections and slows down wound healing [1,6,11,10,18,26,38]. In his article, Sackori described the possibility of introducing fibrin glue into the fluid junction cavity after Madden MME [2,3,6,10,44]. sutured to the lateral part of the axillary depression. Using Radical Mastectomy axillary myoplasty method reduced the volume of lymphorrhea by 98.2 percent and 14 days [11,12] allowed to reduce the patient's hospital stay by 14 days. In addition, a certain method to prevent long-term lymphorrhea is that after the MME of the MADDEN method is carried out by blunt and sharp ways, the second pectoralis anterior muscle is separated from the chest wall, immediately cut from the part attached to the shoulder blade, and expanded, subfascial fiber and the edge of the fascia. When suturing the tip of the mobilized muscle with sutures, the vascular-nerve bundle is covered in the axillary area. After that, the last part of the graft is closed with the pectoralis major muscle [1]. In one of the studies, the author of a certain method shows that postoperative lymphorrhea lasted 3.3 days less in patients compared to patients in the control group. The closest approach to the reported method is to prevent

lymphorrhoea in MME according to Madden, including intraoperative secretion of the posterior cerbar muscle flap, removal of the fascia from the inner part of the muscle and suturing to the chest wall, and transection of the axillary lymphatic vessels. The use of this method of myoplasty can reduce the duration and volume of lymph after MME by 45.4 percent (794 ml) Maden, and the duration of evacuation can be reduced to 7 days [19,20]. Sidorenkoyu S and co-authors developed a method to prevent lymphuria after MME in Madden and introduced it into daily practice. This method is described as follows: after removing the breast tumor and regional lymph nodes and fat tissue, the wound surface was treated with an electrocoagulator in the spray-coagulation mode. Skin flaps are sewn to the chest wall with separate sutures from the upper part of the subscapular bone. The subcutaneous tissue of the upper and lower eyelids was sutured with a continuous suture with the subcutaneous muscle fascia, and parts of the pectoralis major or intercostal muscles were taken. Active wound drainage is not used. The results of long-term use of the methodology showed that the frequency of lymphatic development decreased from 33.3% to 10%), and the average time of wound healing decreased from 14 days to 8.9 days [30].

One of the complications of MME in the Madden method is the development of movement disorder and contracture in the shoulder joint, so the issue of upper extremity immobilization in the early postoperative period is controversial [47]. Many authors tried to compare the frequency of lymphatic development in patients with upper extremity immobilization and in patients without immobilization. Some authors showed a 20% decrease in the volume of lymphatic fluid and a shorter duration of wound drainage (2 - Z days) in patients who performed upper extremity immobilization[3,1,2]. In their article, Flew et al showed that patients with extremity immobilization had a decrease in the duration of postoperative wound drainage (29%) and a decrease in lymph fluid volume (40%). However, a number of authors reported that lymph volume does not significantly decrease after surgery in upper extremity immobilization [45,18]. Octreotide has been shown to be effective in reducing local inflammation and the rate of lymph flow. Carco Aeroy et al. in their work conducted a study on 261 patients with subsequent MME performed by Madden. One group of patients received octreotide at 0.1 mg for 5 days. The results showed that the average daily volume of lymph fluid decreased by 30 - 50 ml [3]. Wearing tight compression underwear helps to "glue" the flap of skin to the chest wall. This method is used by Madden [45] to reduce the duration of lymph after MME. However, Kontos M et al., in their article, showed that the use of compression underwear does not affect the duration and volume of lymphorrhoea,[15] but causes discomfort in patients. In his work, Nadkarni M proved that endoscopic axillary lae in 63 patients with SBR and endoscopic breast surgery method can fundamentally meet the requirements of ablative removal of tumor and regional cells. The authors demonstrated an 11% reduction in the duration and volume of lymphorrhoea using endoscopic axillary lae [24]. Methods used in the postoperative period to reduce the duration and amount of lymphorrhoea. Studies by Oertli et al showed that administration of tranexamic acid after Madden RME reduced lymph fluid volume. Patients in the study group were discharged 9 days earlier and required fewer serous fluid aspirations compared to the control group. A study of 53 patients who received tranexamic acid showed a slight reduction in the duration and volume of lymphorrhoea [40]. Widespread introduction of endoscopic surgery has not avoided the problem of preventing lymphadenopathy in patients with SBR after Madden MME. The minimally invasive composition of endoscopic methods focused on the ability to perform endoscopic axillary lae, thereby reducing the duration and volume of lymphorrhoea. confirmed. Lyumbarsky M.S. and also the authors say that the immunotropic drug glutoxime is used by Madden to prevent lymphorrhoea after MME in

patients with SBR. The use of Glutoxim in the preoperative period in patients reduces the inflammation of the postoperative wound and thereby normalizes the number of leukocytes and lymphocytes in the lymph. As a result, skin Machine Translated by Google The volume and time of wound exudation in laskutita is reduced, and this prevents longterm lymphorrhea in the postoperative period [15]. Thus, the problem of long and abundant lymphorrhea after MME is not completely resolved. Many methods of prevention of lymphorrhea indicate that there is currently no optimal or combined method of prevention of lymphorrhea. Various authors claim that the harmonic scalpel almost halves the duration and amount of lymph and reduces blood loss during the operation and for days. Other authors have given conflicting data, arguing that the duration and volume of long-term lymphorrhea remain unchanged [41,19]. In the analysis of literature data, there are conflicting data about the effect of myoplasty on the duration and volume of lymphorrhea. A number of authors do not describe the number of complications and the development of upper extremity stiffness after axillary myoplasty. When the pectoralis minor muscles are cut, contracture of the shoulder joint can develop because the muscle is attached to the small process of the humerus and the normal anatomy is disturbed. The use of fibrin glue to reduce the duration and volume of lymphorrhea leads to the occurrence of many contradictory results. It is known that the duration and size of lymphorrhea is directly related to the size of the lae. Some authors show a significant decrease in the duration and volume of lymphorrhea when fibrin glue is used, while others give conflicting data [4,15,44]. A slight decrease in the volume of lymph up to 30-50 ml is not enough to solve the problem of lymphorrhea. In addition, there is no information in the literature about several methods of preventing lymph infection, such as the combination of ultrasound lae and myoplasty or fibrin glue and myoplasty together. The combination of these methods can be effective by having an optimal effect on the pathogenetic mechanisms of long-term lymphatic development. Machine Translated by Google.

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